

15A NCAC 02D .0955 THREAD BONDING MANUFACTURING

(a) For the purpose of this Rule, the following definitions apply:

- (1) "Capture hoods" means any device designed to remove emissions from the solution bath tray areas during the manufacturing process.
- (2) "Curing" means exposing coated threads to high temperatures in an oven until the nylon solution mixture hardens, vaporizing the solvents, and bonds to the threads.
- (3) "Day tanks" means holding tanks that contain nylon solution mixture ready for use.
- (4) "Drying ovens" means any apparatus through which the coated threads are conveyed while curing.
- (5) "Enclose" means to construct an area within the plant that has a separate ventilation system and is maintained at a slightly negative pressure.
- (6) "Fugitive emissions" means emissions that cannot be collected and routed to a control system.
- (7) "Nylon thread coating process" means a process in which threads are coated with a nylon solution and oven cured.
- (8) "Permanent label" means a label that cannot be easily removed or defaced by any person.
- (9) "Polyester solution mixture" means a mixture of polyester and solvents that is used for thread coating.
- (10) "Storing" means reserving material supply for future use.
- (11) "Thread bonding manufacturing" means coating single or multi-strand threads with plastic (nylon or polyester solution mixture) to impart properties such as additional strength and durability, water resistance, and moth repellency.
- (12) "Transporting" means moving material supply from one place to another.

(b) This Rule shall apply to any thread bonding manufacturing facility with total uncontrolled exhaust emissions from nylon thread coating process collection hoods and drying ovens of volatile organic compounds (VOC) equal to or greater than 100 tons per year.

(c) Annual VOC emissions from each nylon thread coating process shall be determined by multiplying the hourly amount of VOC consumed by the total scheduled operating hours per year.

(d) Emissions from each nylon thread coating process subject to this Rule shall be reduced:

- (1) by at least 95 percent by weight; or
- (2) by installing a thermal incinerator with a temperature of at least 1600°F and a residence time of at least 0.75 seconds.

(e) The owner or operator of any thread bonding manufacturing facility shall:

- (1) enclose the nylon thread coating process area of the plant to prevent fugitive emissions from entering other plant areas;
- (2) store all VOC-containing materials in covered tanks or containers;
- (3) ensure that equipment used for transporting or storing VOC containing material does not leak and that all lids and seals used by the equipment are kept in the closed position at all times except when in actual use;
- (4) not cause or allow VOC-containing material to be splashed, spilled, or discarded in sewers;
- (5) hold only enough nylon solution mixture in the day tanks to accommodate daily process times measured in hours; and
- (6) place permanent and conspicuous labels on all equipment affected by Subparagraphs (3) through (5) of this Paragraph summarizing handling procedures described in these Subparagraphs for VOC-contaminated materials at the nylon thread coating process.

(f) The owner or operator of a thread bonding manufacturing facility shall notify the Director within 30 days after the calculated annual emissions of VOC from nylon thread coating processes equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Rule.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a);
Eff. May 1, 1995;
Readopted Eff. November 1, 2020.*